CULTURAL RESOURCES SURVEY OF THE INDIA HOOK TAP 100kV LINE, YORK COUNTY, SOUTH CAROLINA

Chicora Research Contribution 586

CULTURAL RESOURCES SURVEY OF THE INDIA HOOK TAP 100kV LINE, YORK COUNTY, SOUTH CAROLINA

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MANAGEMENT SUMMARY

This report provides the results of a cultural resources investigation of the India Hook Tap Line opposite Crestview Drive in northeast York County about 5 miles north-northwest of the City of Rock Hill and 1.5 miles northwest of the small community of India Hook. The study was conducted by Dr. Michael Trinkley of Chicora Foundation for Mr. Tommy Jackson of Central Electric Power Cooperative. The work is intended to assist this client comply with Section 106 of the National Historic Preservation Act and the regulations codified in 36CFR800.

The corridor is to be used by Central Electric Power Cooperative for the construction of a tap line connecting the new India Hook 100kV substation with an existing Duke Power Company line to the north-northeast. This tap line includes the acquisition of new property although the 718 foot long corridor is immediately adjacent to an existing, larger powerline.

The proposed corridor has been surveyed and the centerline was staked in the field. The work will involve further clearing and the construction of the proposed transmission line. These activities have the potential to affect archaeological and historical sites that may be in the project corridor. For this study an area of potential effect (APE) that corresponds to the new right-of-way was assumed.

York County received a comprehensive architectural and historical survey in 1992. In spite of the previous work, no architectural sites have been identified within, or adjacent to, the APE.

An investigation of the archaeological site files at the S.C. Institute of Archaeology and Anthropology failed to identify any previously recorded archaeological sites within the project's APE. The new India Hook substation rebuild was surveyed by Chicora in 2016 and no archaeological sites were identified.

The archaeological study of the corridor consisted of shovel testing at 100-foot intervals along the 716 foot corridor. A total of eight shovel tests were excavated. Much of this corridor is on steep slopes and in such areas red clay was exposed on the surface. No archaeological sites or isolated finds were identified in project.

A survey of public roads within 100 feet of the existing substation was previously conducted by Chicora in an effort to identify any architectural sites over 50 years old that also retained their integrity. No structures were found.

It is possible that archaeological remains may be encountered in the project area during construction. Construction crews should be advised to report any discoveries of concentrations of artifacts (such as bottles, ceramics, or projectile points) or brick rubble to the project engineer, who should in turn report the material to the State Historic Preservation Office or to Chicora Foundation (the process of dealing with late discoveries is discussed in 36CFR800.13(b)(3)). No construction should take place in the vicinity of these late discoveries until they have been examined by an archaeologist and, if necessary, have been processed according to 36CFR800.13(b)(3).

TABLE OF CONTENTS

LIST OF FIGURES

Introduction

This investigation was directed by Dr. Michael Trinkley of Chicora Foundation, Inc. for Mr. Tommy L. Jackson of Central Electric Power Cooperative. The work was conducted to assist Central Electric Power Cooperative to comply with Section 106 of the National Historic Preservation Act and the regulations codified in 36CFR800.

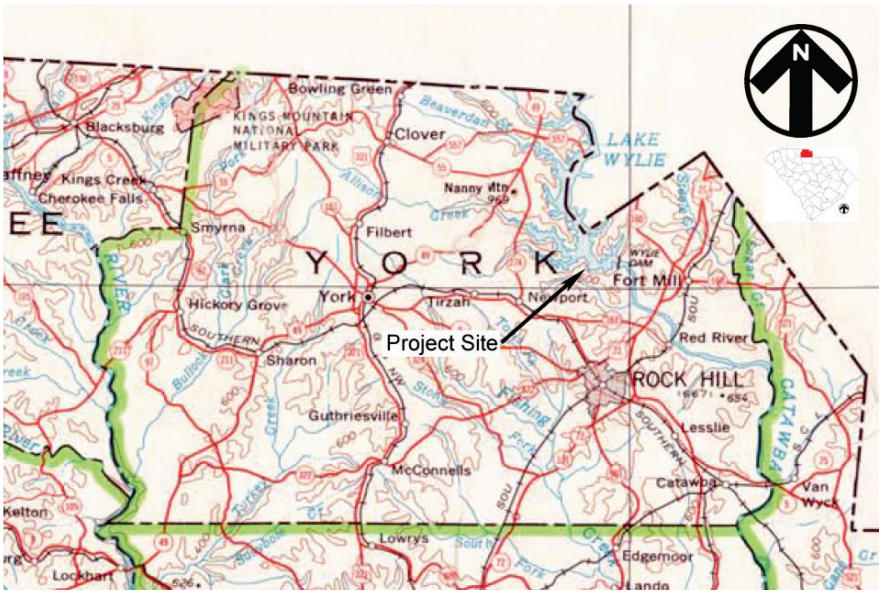

Figure 1. Project vicinity in York County (base map is USGS South Carolina 1:500,000).

The project site consists of a proposed transmission corridor in northeastern York County, about 5 miles north-northwest of the City of Rock Hill and 1.5 miles northwest of the small community of India Hook (Figure 1; India Hook not shown on the map). The corridor begins at the existing India Hook substation (recently a rebuild there was surveyed; see Trinkley 2016). It extends about 716 feet north-northeast from the substation, paralleling an existing Duke Power Company corridor, T-intersecting with an existing corridor. The proposed corridor is 70-feet in width, 35-feet on each side of the centerline. The edge of the corridor abuts the existing corridor. The entire corridor is very steeply sloping, which has resulted in significant erosion (Figure 2).

The centerline has been cleared and staked every 100-feet, although dense deadwood remains in the corridor.

The corridor briefly parallels a previously discussed (Trinkley 2016) modern trash pile, (consisting of demolition debris, household goods, both plastic and glass bottles, and other larger items) although there is no evidence the pile extends into the corridor and no historic artifacts were recovered. The nearest water source is an old drainage to Lake Wylie about 500 feet to the east, reflected by the steep slopes within corridor. Aerial images to 1995 show no appreciable changes in the area, except for increased development to the west and the improvement of the refuse center to the north.

The proposed parcel, as previously mentioned, is intended to be used as a transmission substation. Construction will require additional land alteration, including additional clearing of the corridor. Construction and maintenance of the transmission line may have an impact on historic

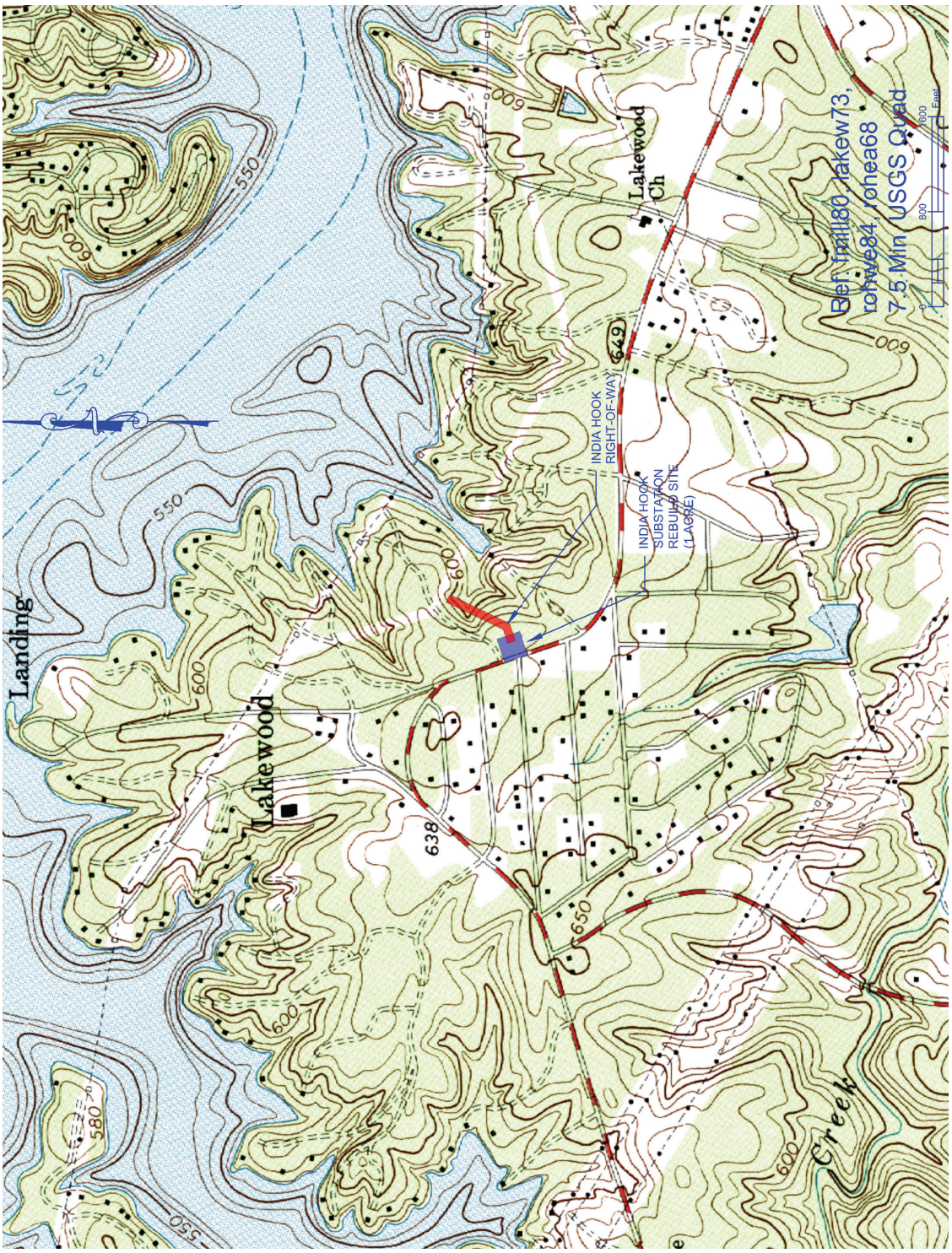

Figure 2. Portion of the 1:24,000 USGS Lake Wylie 1973 topographic map showing the project corridor (in red).

resources in the project area.

The project will not directly affect any historic structures (since none are located on or even adjacent to the corridor), but the completed facility may detract from the visual integrity of historic properties, creating what some consider discordant surroundings. However, since the corridor parallels an existing corridor, at one end is an extant substation and at the terminus another existing transmission line, with a county recycling facility to the immediate west, we felt confident in examining an area of potential effect (APE) that includes only the corridor's 70-foot right-of-way. As a result, we judge visual intrusion to be of little concern.

Figure 3. Staked survey corridor showing steep slope.

This study, however, does not consider any future secondary impact of the project, including increased or expanded development of this portion of York County.

We were requested by Mr. Tommy L. Jackson of Central Electric Power Cooperative to conduct the cultural resource study in early November 2017, with the field investigations conducted by Dr. Michael Trinkley on December 4, 2017. The architectural survey and evaluations were con-ducted by Dr. Trinkley at this same time.

These investigations incorporated a review of ArchSite and the site files at the South Carolina Institute of Archaeology and Anthropology. As a result of that work, no previously recorded archaeological sites were identified within or adjacent to the APE. While a comprehensive architectural survey has been conducted for York County (Anonymous 1992), no architectural sites have been identified within the APE. In fact, the closest identified architectural site is about 1.3 miles to the east on Mt. Gallant Road.

Archival and historical research was limited to a review of secondary sources available in the Chicora Foundation files and at the South Caroliniana Library.

The archaeological survey identified no archaeological sites within the 1.5-acre parcel. The architectural survey of the APE, designed to identify any structures over 50 years in age that retain their integrity and that are potentially eligible for the National Register of Historic Places

revealed no such structures.

Report production was conducted at Chicora's laboratories in Columbia, South Carolina on December 5-6, 207. The only photographic materials associated with this project are digital and will be retained by Chicora Foundation.

Environmental Background

Physiography and Geology

York County, forming part of South Carolina's north central boundary with North Carolina, is bordered to the east by Mecklenburg County and Lancaster County, to the south by Chester County, to the southwest by Union County, and to the west by Cherokee County.

The county is located within the Piedmont physiographic area and has a topography ranging from nearly level to steep (Camp 1965). Slopes can range from zero to 35% (Camp 1965). Slopes within the project area range from level (at the substation lot) to as much as 25% in the right-of-way section.

Possibly part of the peneplain, the Piedmont is characterized by the dendritic stream patterns. It is also characterized by a range of metavolcanic, quartz, and quartzite materials used by Native Americans for stone tools. Much of the dendritic pattern has been lost to the impoundment of Lake Wylie in 1904 and its expansion in 1924.

Toward Columbia is the Coastal Plain, where the topography changes dramatically, the hilly upper Coastal Plain and Sand Hills giving way to the broad expanses of relatively flat, level ground associated with the lower Coastal Plain. These areas provide sources for Coastal Plain cherts, also used extensively for tool manufacture.

On the substation tract the elevations are about 671 feet above mean sea level (AMSL). In the corridor there is a steep slope down to about 630 feet.

Most of the rocks of the Piedmont are gneiss and schist, with some marble and quartzite (Hasselton 1974). Some less intensively metamorphosed rocks, such as slate, occur along the eastern part of the province from southern Virginia into Georgia. This area, called the Slate Belt, is characterized by slightly lower ground with wider river valleys. Consequently, the Slate Belt has been favored for reservoir sites (Johnson 1970), as well as prehistoric occupation (see Coe 1964). In York County many of the Piedmont soils are weathered from argillites rich in silica and alumina. Other soils are formed in saprolite that weathered from crystalline rocks and "Carolina slates." Soils from the river floodplains formed in sediment that washed from the uplands of the Piedmont province.

Soils

Only two soil types are found in project area. The small portion of the corridor that is level at the southern end consists of Cecil sandy clay loam, 2-6% slopes, moderately eroded (Camp 1965). They have an Ap horizon of dark yellowish brown (10YR4/4) sandy loam to 0.7 foot in depth over a red (10R4/8) clay to 2.2 feet in depth.

The bulk of the corridor, consisting of slopes consist of the Pacolet sandy clay loam, with slopes up to 25%. They, too, are considered moderately eroded, although during this survey after removal of the leaves, we immediately encountered firm red clay subsoil.

The 1934 South Carolina Erosion Survey by M.W. Lowry found that this portion of York County exhibited moderate sheet erosion with occasional gullies (Lowry 1934). This portion of York County has lost up to 0.6 foot of soil through erosion in the nineteenth and early twentieth centuries (Trimble 1974:3). It is part of the area

classified by Trimble as having high antebellum erosion land use with postbellum continuation and belonging to his Region III — the Cotton Plantation Area (Trimble 1974:15). This area, because of the nature of the soils, the type of agricultural products grown, and the form of tenancy common, suffered the greatest erosion in the South.

Climate

Elevation, latitude, and distance from the coast work together to affect the climate of South Carolina, including the Piedmont. In addition, the more westerly mountains block or moderate many of the cold air masses that flow across the state from west to east. Even the very cold air masses that cross the mountains are warmed somewhat by compression before they descend on the Piedmont.

Figure 4. Cleared corridor to the right (southeast) with the centerline stakes and in second growth hardwoods.

Consequently, the climate of York County is temperate. The winters are relatively mild and the summers warm and humid. Rainfall in the amount of about 46.7 inches is adequate, although less than in some neighboring counties.

Floristics

Piedmont forests generally belong to the Oak-Hickory Formation as established by Braun (1950). Regardless, the potential natural vegetation of the project area is the Oak-Hickory-Pine forest, composed of medium tall to tall forests of broadleaf deciduous and needleleaf evergreen trees (Küchler 1964). The major components of this ecosystem include hickory, shortleaf pine, loblolly pine, white oak, and post oak.

The project area has been heavily affected by modern development so that today there is a mixed pine and hardwood forest. There is a dense scrub understory. It appears that the area was logged at some point in the not too distant past and this likely contributed to the erosion. The adjacent existing corridor is, of course, cleared and today in various grasses and vines.

Prehistoric and Historic Synthesis

Prehistoric Overview

Overviews for South Carolina's prehistory, while of differing lengths and complexity, are available in virtually every compliance report prepared. There are, in addition, some "classic" sources well worth attention, such as Joffre Coe's Formative Cultures (Coe 1964), as well as some new general overviews (such as Sassaman et al. 1990 and Goodyear and Hanson 1989). Also extremely helpful, perhaps even essential, are a handful of recent local synthetic statements, such as that offered by Sassaman and Anderson (1994) for the Middle and Late Archaic and by Anderson et al. (1992) for the Paleoindian and Early Archaic. Only a few of the many sources are included in this study, but they should be adequate to give the reader a "feel" for the area and help establish a context for the various sites identified in the study areas. For those desiring a more general synthesis, perhaps the most readable and well balanced is that offered by Judith Bense (1994), *Archaeology of the Southeastern United States: Paleoindian to World War I*. Figure 5 offers a generalized view of South Carolina's cultural periods.

Paleoindian Period

The Paleoindian Period, most commonly dated from about 12,000 to 10,000 B.P., is evidenced by basally thinned, side-notch projectile points; fluted, lanceolate projectile points; side scrapers; end scrapers; and drills (Coe 1964; Michie 1977; Williams 1965). Oliver (1981, 1985) has proposed to extend the Paleoindian dating in the North Carolina Piedmont to perhaps as early as 14,000 B.P., incorporating the Hardaway Side-Notched and Palmer Corner-Notched types, usually accepted as Early Archaic, as representatives of the terminal phase. This view, verbally suggested by Coe for a number of years, has considerable technological appeal.[1] Oliver suggests continuity from the Hardaway Blade through the Hardaway-Dalton to the Hardaway Side-Notched, eventually to the Palmer Side-Notched (Oliver 1985:199-200). While convincingly argued, this approach is not universally accepted.

The Paleoindian occupation, while widespread, does not appear to have been intensive. Artifacts are most frequently found along major river drainages, which Michie interprets to support the concept of an economy "oriented toward the exploitation of now extinct mega-fauna" (Michie 1977:124). Survey data for Paleoindian tools, most notably fluted points, is somewhat dated, but has been summarized by Charles and Michie (1992). They reveal a widespread distribution across the state (see also Anderson 1992b: Figure 5.1) with at least several concentrations relating to intensity of collector activity. What is clear is that points are found fairly far removed from the origin of the raw material. Charles and Michie suggest that this may "imply a geographically extensive settlement system" (Charles and Michie 1992:247).

[1] While never discussed by Coe at length, he did observe that many of the Hardaway points, especially from the lowest contexts, had facial fluting or thinning which, "in cases where the side-notches or basal portions were missing, . . . could be mistaken for fluted points of the Paleo-Indian period" (Coe 1964:64). While not an especially strong statement, it does reveal the formation of the concept. Further insight is offered by Ward's (1983:63) all too brief comments on the more recent investigations at the Hardaway site (see also Daniel 1992).

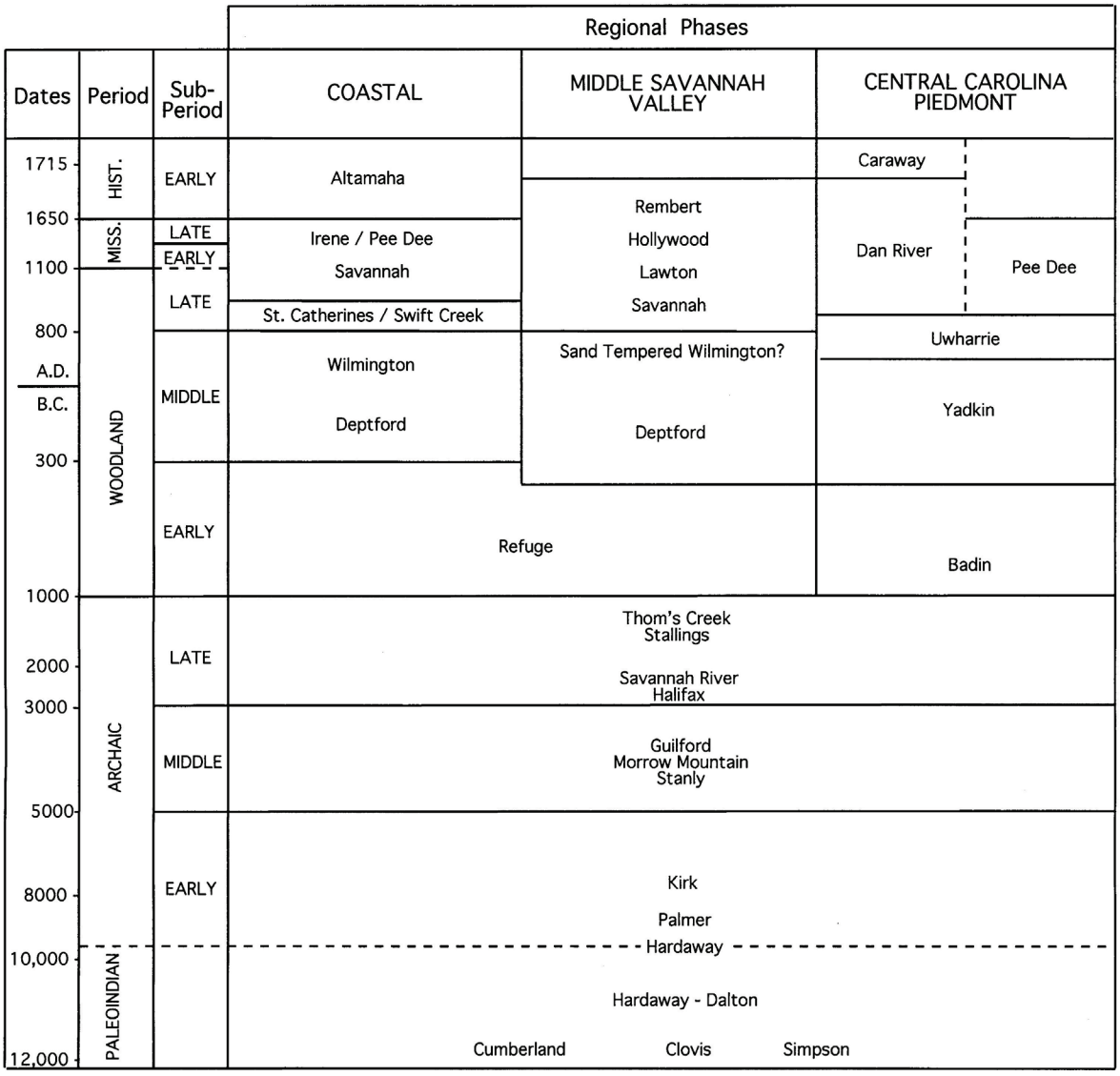

Figure 5. Generalized cultural sequences for South Carolina.

Although data are sparse, one of the more attractive theories that explains the widespread distribution of Paleoindian sites is the model tracking the replacement of a high technology forager (or HTF) adaptation by a "progressively more generalized band/microband foraging adaptation" accompanied by increasingly distinct regional traditions (perhaps reflecting movement either along or perhaps even between river drainages) (Anderson 1992b:46).

Distinctive projectile points include lanceolates such as Clovis, Dalton, perhaps the Hardaway, and Big Sandy (Coe 1964; Phelps 1983; Oliver 1985). A temporal sequence of Paleoindian projectile points was proposed by Williams (1965:24-51), but according to Phelps (1983:18) there is little stratigraphic or chronometric

evidence for it. While this is certainly true, a number of authors, such as Anderson (1992a) and Oliver (1985) have assembled impressive data sets. We are inclined to believe that while often not conclusively proven by stratigraphic excavations (and such proof may be an unreasonable expectation), there is a large body of circumstantial evidence. The weight of this evidence tends to provide considerable support.

Unfortunately, relatively little is known about Paleoindian subsistence strategies, settlement systems, or social organization (see, however, Anderson 1992b for an excellent overview and synthesis of what is known). Generally, archaeologists agree that the Paleoindian groups were at a band level of society, were nomadic, and were both hunters and foragers. While population density, based on isolated finds, is thought to have been low, Walthall suggests that toward the end of the period, "there was an increase in population density and in territoriality and that a number of new resource areas were beginning to be exploited" (Walthall 1980:30).

Archaic Period

The Archaic Period, which dates from 10,000 to 3,000 B.P.[2], does not form a sharp break with the Paleoindian Period, but is a slow transition characterized by a modern climate and an increase in the diversity of material culture. Associated with this is a reliance on a broad spectrum of small mammals, although the white tailed deer was likely the most commonly exploited animal. Archaic period assemblages, exemplified by corner-notched and broad-stemmed projectile points, are fairly common, perhaps because the swamps and drainages offered especially attractive ecotones.

Many researchers have reported data suggestive of a noticeable population increase from the Paleoindian into the Early Archaic. This has tentatively been associated with a greater emphasis on foraging. Diagnostic Early Archaic artifacts include the Kirk Corner Notched point. As previously discussed, Palmer points may be included with either the Paleoindian or Archaic period, depending on theoretical perspective. As the climate became hotter and drier than the previous Paleoindian period, resulting in vegetational changes, it also affected settlement patterning as evidenced by a long-term Kirk phase midden deposit at the Hardaway site (Coe 1964:60). This is believed to have been the result of a change in subsistence strategies.

Settlements during the Early Archaic suggest the presence of a few very large, and apparently intensively occupied, sites that can best be considered base camps. Hardaway might be one such site. In addition, there were numerous small sites which produce only a few artifacts – these are the "network of tracks" mentioned by Ward (1983:65). The base camps produce a wide range of artifact types and raw materials that has suggested too many researchers long-term, perhaps seasonal or multi-seasonal, occupation. In contrast, the smaller sites are thought of as special

[2] The terminal point for the Archaic is no clearer than that for the Paleoindian and many researchers suggest a terminal date of 4,000 B.P. rather than 3,000 B.P. There is also the question of whether pottery, such as the fiber-tempered Stallings ware, will be included as Archaic, or will be included with the Woodland. Oliver, for example, argues that the inclusion of ceramics with Late Archaic attributes "complicates and confuses classification and interpretation needlessly" (Oliver 1981:20). He comments that according to the original definition of the Archaic, it "represents a preceramic horizon" and that "the presence of ceramics provides a convenient marker for separation of the Archaic and Woodland periods" (Oliver 1981:21). Others would counter that such an approach ignores cultural continuity and forces an artificial, and perhaps unrealistic, separation. Sassaman and Anderson (1994:38-44), for example, include Stallings and Thom's Creek wares in their discussion of "Late Archaic Pottery." While this issue has been of considerable importance along the Carolina and Georgia coasts, it has never affected the Piedmont, which seems to have embraced pottery far later, well into the conventional Woodland period. The importance of the issue in the nearby Sand Hills, unfortunately, is not well known.

purpose or foraging sites (see Ward 1983:67).

Middle Archaic (8,000 to 6,000 B.P.) diagnostic artifacts include Morrow Mountain, Guilford, Stanly, and Halifax projectile points. Much of our best information on the Middle Archaic comes from sites investigated west of the Appalachian Mountains, such as the work by Jeff Chapman and his students in the Little Tennessee River Valley (for a general overview see Chapman 1977, 1985a, 1985b). There is good evidence that Middle Archaic lithic technologies changed dramatically. End scrapers, at times associated with Paleoindian traditions, are discontinued, raw materials tend to reflect the greater use of locally available materials, and mortars are initially introduced. Associated with these technological changes there seem to also be some significant cultural modifications. Prepared burials begin to more commonly occur and storage pits are identified. The work at Middle Archaic river valley sites, with their evidence of a diverse floral and faunal subsistence base, seems to stand in stark contrast to Caldwell's (1958) Middle Archaic "Old Quartz Industry" of Georgia and the Carolinas, where axes, choppers, and ground and polished stone tools are very rare.

Among the most common of all Middle Woodland artifacts is the Morrow Mountain Stemmed projectile point that was originally divided into two varieties by Coe (1964:37,43) based primarily on the size of the blade and the stem. Morrow Mountain I points had relatively small triangular blades with short, pointed stems. Morrow Mountain II points had longer, narrower blades with long, tapered stems. Coe suggested a temporal sequence from Morrow Mountain I to Morrow Mountain II. While this has been rejected by some archaeologists, who suggest that the differences are entirely related to the life-stage of the point, the debate is far from settled and Coe has considerable support for his scenario.

The Morrow Mountain point is also important in our discussions since it represents a departure from the Carolina Stemmed Tradition. Coe has suggested that the groups responsible for the Middle Archaic Morrow Mountain (and the later Guilford points) were intrusive ("without any background" in Coe's words) into the North Carolina Piedmont, from the west, and were contemporaneous with the groups producing Stanly points (Coe 1964:122-123; see also Phelps 1983:23). Phelps, building on Coe, refers to the Morrow Mountain and Guilford as the "Western Intrusive horizon." Sassaman (1995) has recently proposed a scenario for the Morrow Mountain groups that would support this west-to-east time-transgressive process. Abbott and his colleagues, perhaps unaware of Sassaman's data, dismiss the concept, commenting that the shear distribution and number of these points "makes this position wholly untenable" (Abbott et al. 1995:9).

The controversy surrounding Morrow Mountain also includes its posited date range. Coe (1964:123) did not expect the Morrow Mountain to predate 6500 B.P., yet more recent research in Tennessee reveals a date range of about 7500 to 6500 B.P. Sassaman and Anderson (1994:24) observe that the South Carolina dates have never matched the antiquity of their more western counterparts and suggest continuation to perhaps as late as 5500 B.P. In fact, they suggest that even later dates are possible since it can often be difficult to separate Morrow Mountain and Guilford points.

A recently defined point is the MALA. The term is an acronym standing for Middle Archaic and Late Archaic, the strata in which these points were first encountered at the Pen Point site (38BR383) in Barnwell County, South Carolina (Sassaman 1985). These stemmed and notched lanceolate points were originally found in a context suggesting a single-episode event with variation not based on temporal variation. The original discussion was explicitly worded to avoid application of a typology, although as Sassaman and Anderson (1994:27) note, the "type" has spread into more common usage. There are possible connections with both the Halifax points of North Carolina and the Benton points of the middle Tennessee River valley, while the "heartland" for the MALA appears confined to the lower middle Coastal Plain of South Carolina.

The available information has resulted in a variety of competing settlement models. Some argue for increased sedentism and a reduction of mobility (see Goodyear et al. 1979:111). Ward argues that the most appropriate model is one that includes relatively stable and sedentary hunters and gatherers "primarily adapted to the varied and rich resource base offered by the major alluvial valleys" (Ward 1983:69). While he recognizes the presence of "inter-riverine" sites, he discounts explanations that focus on seasonal rounds, suggesting "alternative explanations . . . [including] a wide range of adaptive responses." Most importantly, he notes that:

> the seasonal transhumance model and the sedentary model are opposite ends of a continuum, and in all likelihood variations on these two themes probably existed in different regions at different times throughout the Archaic period (Ward 1983:69).

Others suggest increased mobility during the Archaic (see Cable 1982). Sassaman (1983) has suggested that the Morrow Mountain phase people had a great deal of residential mobility, based on the variety of environmental zones they are found in and the lack of site diversity. The high level of mobility, coupled with the rapid replacement of these points, may help explain the seemingly large numbers of sites with Middle Archaic assemblages. Curiously, the later Guilford phase sites are not as widely distributed, perhaps suggesting that only certain micro-environments were used (cf. Ward [1983:68-69] who would likely reject the notion that substantially different environmental zones are, in fact, represented).

Recently Abbott et al. argue for a combination of these models, noting that the almost certain increase in population levels probably resulted in a contraction of local territories. With small territories there would have been significantly greater pressure to successfully exploit the limited resources by more frequent movement of camps. They discount the idea that these territories could have been exploited from a single base camp without horticultural technology. Abbott and his colleagues conclude, "increased residential mobility under such conditions may in fact represent a common stage in the development of sedentism" (Abbott et al. 1995:9).

From excavations at a Sand Hills site in Chesterfield County, South Carolina, Gunn and his colleague (Gunn and Wilson 1993) offer an alternative model for Middle Archaic settlement. He accepts that the uplands were desiccated from global warming, but rather than limiting occupation, this environmental change made the area more attractive for residential base camps. Gunn and Wilson suggest that the open, or fringe, habitat of the upland margins would have been attractive to a wide variety of plant and animal species.

The Late Archaic, usually dated from 6,000 to 3,000 or 4,000 B.P., is characterized by the appearance of large, square stemmed Savannah River projectile points (Coe 1964). These people continued to intensively exploit the uplands much like earlier Archaic groups with, the bulk of our data for this period coming from the Uwharrie region in North Carolina.

One of the more debated issues of the Late Archaic is the typology of the Savannah River Stemmed and its various diminutive forms. Oliver, refining Coe's (1964) original Savannah River Stemmed type and a small variant from Gaston (South 1959:153-157), developed a complete sequence of stemmed points that decrease uniformly in size through time (Oliver 1981, 1985). Specifically, he sees the progression from Savannah River Stemmed to Small Savannah River Stemmed to Gypsy Stemmed to Swannanoa from about 5000 B.P. to about 1,500 B.P. He also notes that the latter two forms are associated with Woodland pottery.

This reconstruction is still debated with a number of archaeologists expressing concern with what they see as typological overlap and ambiguity. They point to a dearth of radiocarbon dates and good excavation contexts at the same time they

express concern with the application of this typology outside the North Carolina Piedmont (see, for a synopsis, Sassaman and Anderson 1990:158-162, 1994:35).

In addition to the presence of Savannah River points, the Late Archaic also witnessed the introduction of steatite vessels (see Coe 1964:112-113; Sassaman 1993), polished and pecked stone artifacts, and grinding stones. Some also include the introduction of fiber-tempered pottery about 4000 B.P. in the Late Archaic (for a discussion see Sassaman and Anderson 1994:38-44). This innovation is of special importance along the Georgia and South Carolina coasts, but seems to have had only minimal impact in the uplands of South or North Carolina.

There is evidence that during the Late Archaic the climate began to approximate modern climatic conditions. Rainfall increased resulting in a lusher vegetation pattern. The pollen record indicates an increase in pine that reduced the oak-hickory nut masts that previously were so widespread. This change probably affected settlement patterning since nut masts were now more isolated and concentrated. From research in the Savannah River valley near Aiken, South Carolina, Sassaman has found considerable diversity in Late Archaic site types with sites occurring in virtually every upland environmental zone. He suggests that this more complex settlement pattern evolved from an increasingly complex socio-economic system. While it is unlikely that this model can be simply transferred to the Sand Hills of South Carolina without an extensive review of site data and micro-environmental data, it does demonstrate one approach to understanding the transition from Archaic to Woodland.

Woodland Period

As previously discussed, there are those who see the Woodland beginning with the introduction of pottery. Under this scenario the Early Woodland may begin as early as 4,500 B.P. and continued to about 2,300 B.P. Diagnostics would include the small variety of the Late Archaic Savannah River Stemmed point (Oliver 1985) and pottery of the Stallings and Thoms Creek series. Sand tempered Thoms Creek wares are decorated using punctations, jab-and-drag, and incised designs (Trinkley 1976). Also potentially included is Refuge wares, also characterized by sandy paste, but often having only a plain or dentate-stamped surface (Waring 1968). Others would have the Woodland beginning about 3,000 B.P. and perhaps as late as 2,500 B.P. with the introduction of pottery that is cord-marked or fabric-impressed and suggestive of influences from northern cultures.

There remains, in South Carolina, considerable ambiguity regarding the pottery series found in the Sand Hills and their association with coastal plain and piedmont types.

In the Piedmont, the Early Woodland is marked by a pottery type defined by Coe (1964:27-29) as Badin.[3] This pottery is identified as having very fine sand in the paste with an occasional pebble. Coe identified cord-marked, fabric-marked, net-impressed, and plain surface finishes. Beyond this pottery little is known about the makers of the Badin wares and relatively few of these sherds are reported from South Carolina sites.

Somewhat more information is available for the Middle Woodland, typically given the range of about 2,300 B.P. to 1,200 B.P. In the Piedmont and even into the Sand Hills, the dominant Middle Woodland ceramic type is typically identified as the Yadkin series. Characterized by a crushed quartz temper the pottery includes surface treatments of cord-marked, fabric-marked, and a very few linear check-stamped sherds (Coe 1964:30-32). It is regrettable that several of the

[3] The ceramics suggest clear regional differences during the Woodland that seem to only be magnified during the later phases. Ward (1983:71), for example, notes that there are "marked distinctions" between the pottery from the Buggs Island and Gaston Reservoirs and that from the south-central Piedmont.

seemingly "best" Yadkin sites, such as the Trestle site (31AN19) explored by Peter Cooper (Ward 1983:72-73), have never been published.

Yadkin ceramics are associated with medium-sized triangular points, although Oliver (1981) suggests that a continuation of the Piedmont Stemmed Tradition to at least 1650 B.P. coexisted with this Triangular Tradition. The Yadkin in South Carolina has been best explored by research at 38SU83 in Sumter County (Blanton et al. 1986) and at 38FL249 in Florence County (Trinkley et al. 1993)

In some respects, the Late Woodland (1,200 B.P. to 400 B.P.) may be characterized as a continuation of previous Middle Woodland cultural assemblages. While outside the Carolinas there were major cultural changes, such as the continued development and elaboration of agriculture, the Carolina groups settled into a lifeway not appreciably different from that observed for the previous 500-700 years. From the vantage point of the Middle Savannah Valley Sassaman and his colleagues note that, "the Late Woodland is difficult to delineate typologically from its antecedent or from the subsequent Mississippian period" (Sassaman et al. 1990:14). This situation would remain unchanged until the development of the South Appalachian Mississippian complex (see Ferguson 1971).

Historic Overview

Some of the earliest inhabitants of the area were the Catawba Indians, who occupied an area to the south of the current project. Figure 6 shows the area occupied by the Catawba in relation to the current project. While work is still ongoing at these sites, it shows that this area has a rich history of Natives and Europeans living simultaneously in the area. It has been reported that smallpox killed much of the Catawba population and by 1759, the remaining tribe members left Nation Ford. By the 1780s, the Catawba were relocated in their current reservation located east of Rock Hill.

York County, part of Anson County, North Carolina in 1750, was first settled by Scotch-Irish settlers who also inhabited the counties of Chester and Lancaster. In 1763, the lands of modern York County became Mecklenburg County, North Carolina, and finally Tryon County, North Carolina. It was in 1772 when the boundary dispute between the Carolinas was settled and gave York County to South Carolina.

> few of no emigrations extended as high up the country, as where Pendleton District is now located. By this treaty, accession of lands, and liberty to erect forts on the western frontier, as a barrier against the French on the southwest, were granted by the Indians (Mills 1972 [1826]:671-672).

Both the treaty and events further north spurred settlement into the area. Most notably, the area was settled by Scotch-Irish from Virginia and Pennsylvania, augmented by Low Country families who came to the up country for summer comfort and remained permanently. Although the area accounts for only about 8% of the state's area, by 1790 it contained about 10% of the state's population.

After the Revolution, agriculture remained as the predominant industry, although gold mining became an important industry during the nineteenth century. York County was ranked fourth in the production of gold in the state of South Carolina (Catawba Regional Planning Council 1975). By 1826, cotton was the principal crop grown in York County with other staples of wheat, corn, rye, and tobacco also bringing money into the economy (Mills 1972 [1826]). It is also at this time that Mills 1972 [1826] reports that no other Indian settlements existed in the district except those on the Catawba River. Mills *Atlas* of 1825 fails to show any settlements along the project corridor (Figure 7).

The nineteenth century in York County saw a significant population increase due to the

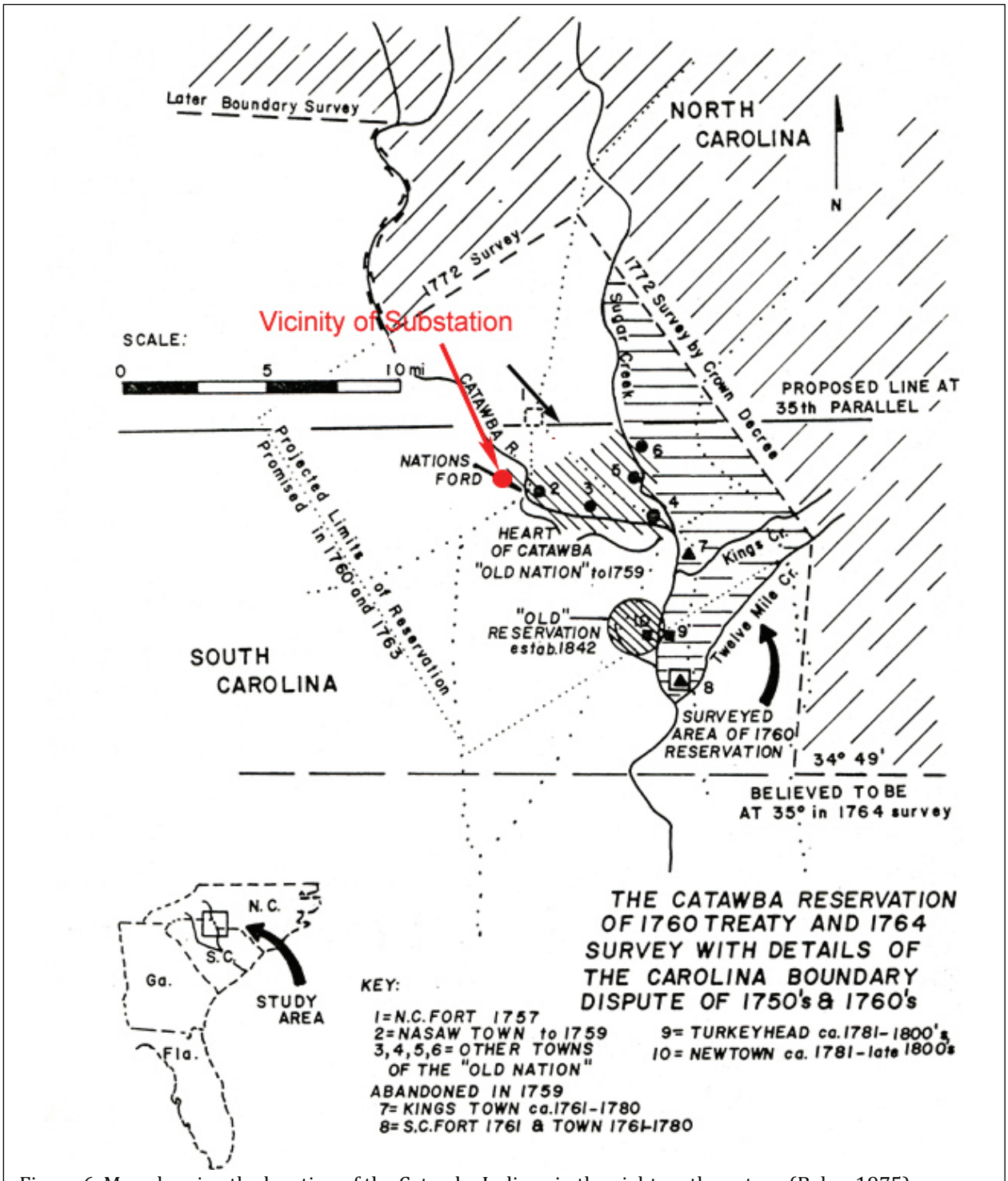

Figure 6. Map showing the location of the Catawba Indians in the eighteenth century (Baker 1975).

Figure 7. Portion of York District from Mills *Atlas* of 1825, showing the vicinity of the corridor.

black slaves used as labor for the rising cotton market (United States Census 1860). In 1860, almost half of the County's population was slave labor (United States Census 1860). The boom in York County's economy was no doubt due to the establishment of roads and the arrival of the Charlotte and South Carolina Railroad in 1852. The line operated for ten years, bringing new goods and services to York County until it was destroyed during the Civil War (Rock Hill School District No. 3 1970).

Although only one battle, Nation Ford, was fought during the Civil War in York County, growth for the county decreased significantly. Reconstruction after the war forced many farmers to downsize their already small farms.

In 1880, the Rock Hill Cotton Factory was built to become the first steam-powered cotton factory in South Carolina. This led to an expansion of agriculture and industry and eventually led to the construction of other factories including the Anderson Automobile and the Fort Mill Manufacturing Company, which was the forerunner of Springs Industries.

The 1905 Soil Survey map of York County fails to show any structures along the corridor. However, relatively few structures on shown on this particular map.

York County's industry remained constant until the 1920s when the years of farming cotton began to erode the soil and destruction by the boll weevil further damaged cotton production. The Great Depression further pushed the County into stagnation.

York County became heavily dependent on industrial sites, including the Catawba Dam and Power Plant which eventually caused the establishment of the Duke Power Company that is still in use today (Kissane and Kissane 1992). A

series of dams and hydroelectric facilities were constructed on the Catawba River in North and South Carolina, which revitalized the economy once again.

By 1941, York County was one of the five most industrialized counties in South Carolina (Petty 1975). The 1950 *General Highway and Transportation Map of York County* shows many structures in vicinity of India Hook, as well as a scattering of sites along what is today Mt. Gallant Road. None, however, appear to be at the proposed substation rebuild. In the early 1980s, the county ranked thirty-second in South Carolina for cash receipts from agriculture (Petty 1975) and at this time several institutions of higher learning were established to further continue the increase in York County's economy.

Previous Investigations

Examination of ArchSite identified no previously recorded archaeological sites in the project APE.

York County has had a comprehensive architectural survey (Kissane and Kissane 1992). In spite of this, no architectural sites were identified within or even adjacent to the corridor.

Methodology and Results

Archaeological Field Methods

The initially proposed field techniques involved the placement of shovel tests at 100-foot intervals on a single transect down the centerline of the 70-foot wide 716-foor corridor.

All soil would be screened through ¼-inch mesh, with each test numbered sequentially along the corridor (corresponding to the station number). Each test would measure about 1-foot square and would normally be taken to a depth of at least 1.0 foot or until subsoil was encountered. All cultural remains would be collected, except for mortar and brick, which would be quantitatively noted in the field and discarded. Notes would be maintained for profiles at any sites encountered.

Should sites (defined by the presence of three or more artifacts from either surface survey or shovel tests within a 50 feet area) be identified, further tests would be used to obtain data on site boundaries, artifact quantity and diversity, site integrity, and temporal affiliation. For small or very recent sites these tests would be placed at 25 to 50 feet intervals in a simple cruciform pattern until two consecutive negative shovel tests were encountered. For larger sites or sites where we felt there was a potential for National Register eligibility, shovel tests would incorporate the entire site within the project corridor. Again, shovel tests would be placed at 25 to 50 foot intervals. We are precluded from examining areas outside the corridor by the easements obtain by Central Carolina Power Cooperative.

The information required for completion of South Carolina Institute of Archaeology and Anthropology site forms would be collected and photographs would be taken, if warranted in the opinion of the field investigator.

The GPS positions would be taken with a WAAS enabled Garmin 76 rover that tracks up to twelve satellites, each with a separate channel that is continuously being read. The benefit of parallel channel receivers is their improved sensitivity and ability to obtain and hold a satellite lock in difficult situations, such as in forests or urban environments where signal obstruction is a frequent problem. This was a vital concern for the study area.

Upon arrival at the corridor, these methods were implemented with no substantive modifications. We did discover that on the corridor slope red clay subsoil was exposed at the surface, so excavations rarely exceeded 0.3-foot in depth and screening was difficult since the soil was very stiff red clay.

Architectural Survey

As previously discussed, we elected to use an area of potential effect (APE) that corresponds to the transmission line corridor. The architectural survey would record buildings, sites, structures, and objects that appeared to have been constructed before 1950. Typical of such projects, this survey recorded only those which have retained "some measure of its historic integrity" (Vivian 2001:5) and which were visible from public roads.

For each identified resource we would complete a Statewide Survey Site Form and at least two representative photographs were taken. The Survey Staff of the S.C. Department of Archives and

History would assign permanent control numbers at the conclusion of the study. The Site Forms for the resources identified during this study would be submitted to the S.C. Department of Archives and History.

Site Evaluation

Archaeological sites will be evaluated for further work based on the eligibility criteria for the National Register of Historic Places. Chicora Foundation only provides an opinion of National Register eligibility and the final determination is made by the lead federal agency, in consultation with the State Historic Preservation Officer at the South Carolina Department of Archives and History.

The criteria for eligibility to the National Register of Historic Places are described by 36CFR60.4, which states:

> the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and
>
> a. that are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> b. that are associated with the lives of persons significant in our past; or
>
> c. that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> d. that have yielded, or may be likely to yield, information important in prehistory or history.

National Register Bulletin 36 (Townsend et al. 1993) provides an evaluative process that contains five steps for forming a clearly defined explicit rationale for either the site's eligibility or lack of eligibility. Briefly, these steps are:

- identification of the site's data sets or categories of archaeological information such as ceramics, lithics, and subsistence remains, architectural remains, or sub-surface features;

- identification of the historic context applicable to the site, providing a framework for the evaluative process;

- identification of the important research questions the site might be able to address, given the data sets and the context;

- evaluation of the site's archaeological integrity to ensure that the data sets were sufficiently well preserved to address the research questions; and

- identification of important research questions among all of those that might be asked and answered at the site.

This approach, of course, has been developed for use documenting eligibility of sites being actually nominated to the National Register of Historic Places where the evaluative process must stand alone, with relatively little reference to other documentation and where typically only one site is being considered. As a result, some aspects of the evaluative process have been summarized, but we have tried to focus on an archaeological site's ability to address significant research topics within the context of its available data sets.

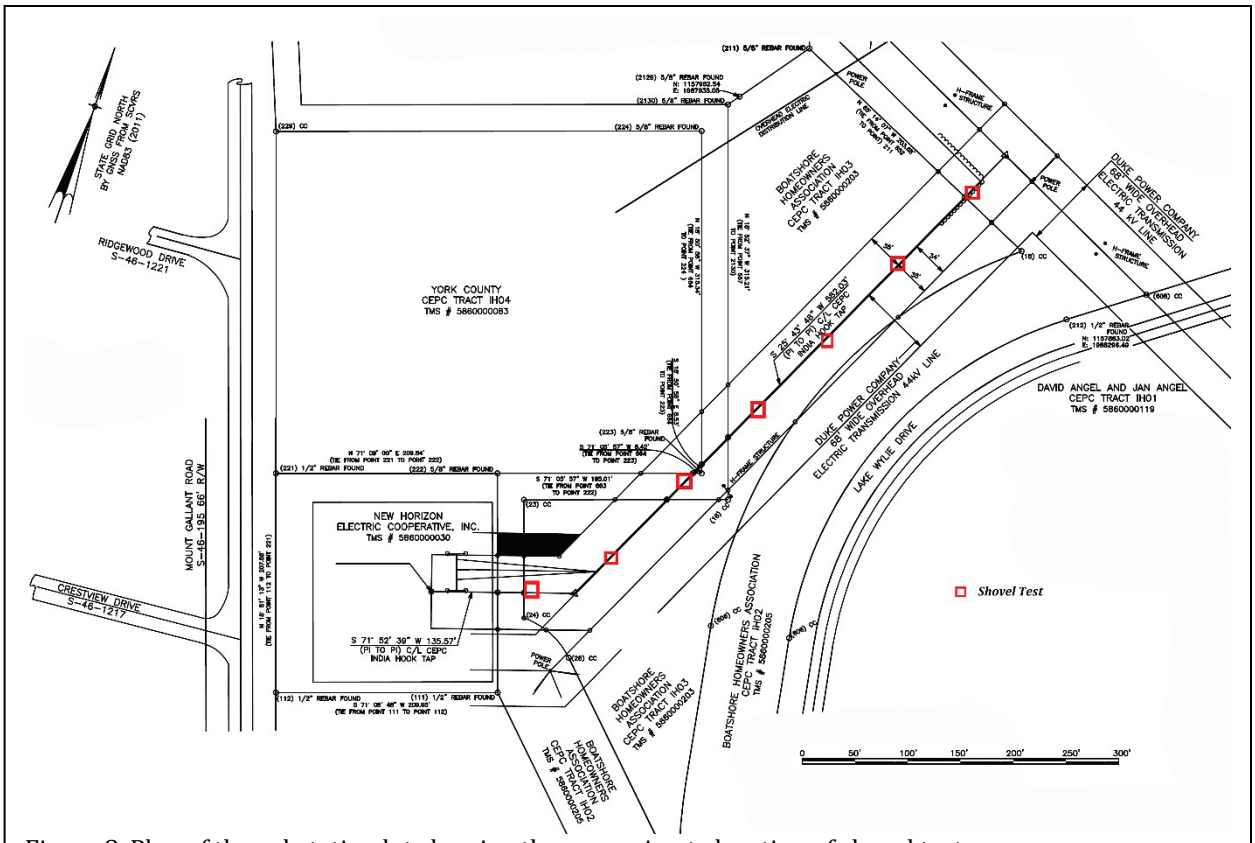

Figure 8. Plan of the substation lot showing the approximate location of shovel tests.

For architectural sites the evaluative process was somewhat different. Given the relatively limited architectural data available for most of the properties, we focus on evaluating these sites using National Register Criterion C, looking at the site's "distinctive characteristics." Key to this concept is the issue of integrity. This means that the property needs to have retained, essentially intact, its physical identity from the historic period.

Particular attention would be given to the integrity of design, workmanship, and materials. Design includes the organization of space, proportion, scale, technology, ornamentation, and materials. As *National Register Bulletin* 36 observes, "Recognizability of a property, or the ability of a property to convey its significance, depends largely upon the degree to which the design of the property is intact" (Townsend et al. 1993:18). Workmanship is evidence of the artisan's labor and skill and can apply to either the entire property or to specific features of the property. Finally, materials – the physical items used on and in the property – are "of paramount importance under Criterion C" (Townsend et al. 1993:19). Integrity here is reflected by maintenance of the original material and avoidance of replacement materials.

Laboratory Analysis

The cleaning and analysis of artifacts that might be collected would be conducted in Columbia at the Chicora Foundation laboratories. Any such materials will be catalogued and accessioned for curation at the South Carolina Institute of Archaeology and Anthropology, the closest regional repository. The site forms for the identified archaeological sites will be filed with the

Figure 9. Shovel Test 1, on level ground, showing about 0.3 foot of brown clay loam overlying stiff red clay subsoil.

South Carolina Institute of Archaeology and Anthropology. Field notes from the project have been prepared for curation using archival standards and will be transferred to that agency as soon as the project is complete. Photographic materials are either digital and are not archival – they are being retained by Chicora Foundation.

Should materials be recovered requiring analysis that work will follow professionally accepted standard with a level of intensity suitable to the quantity and quality of the remains.

In general, the temporal, cultural, and typological classifications of prehistoric materials are defined by such authors as Coe (1964), Yohe (1996), Blanton et al. (1986), and Oliver et al. (1986). Historic materials, generally late nineteenth or early twentieth century, are generally classified using such authors as Jones and Sullivan (1980) for glass and Adams (1980), Bartovics (1978), and Price (1979) for ceramics.

Results

The archaeological survey of the parcel failed to identify any remains. The seven shovel tests revealed truncated soils on the slopes. The only profie approaching normal was identified on level soils just north of the substation rebuild (Figure 9).

No standing structures not previously surveyed were identified.

Conclusions

This study involved the examination of a 100kV tap line corridor about 716-feet in length. This report, conducted for Mr. Tommy Jackson of Central Electric Power Cooperative, provides the results of the investigation and is intended to assist the company comply with their historic preservation responsibilities.

The South Carolina Institute of Archaeology and Anthropology GIS was consulted to check for any NRHP buildings, districts, structures, sites, or objects in the study area. No properties in or near the project area have been determined eligible for the National Register of Historic Places. Likewise, previous archaeological studies failed to identify any cultural resources within the APE.

The current field studies found no archaeological sites within the corridor.

No standing structures were identified by this survey. Moreover, the presence of the existing substation, a parallel high tension electrical line, and an adjacent county refuse/recycling property have already impacted the visual setting.

It is possible that archaeological remains may be encountered in the area during construction. As always, the utility's contractors should be advised to report any discoveries of concentrations of artifacts (such as bottles, ceramics, or projectile points) or brick rubble to the project engineer, who should in turn report the material to the State Historic Preservation Office, or Chicora Foundation (the process of dealing with late discoveries is discussed in 36CFR800.13(b)(3)). No further land altering activities should take place in the vicinity of these discoveries until they have been examined by an archaeologist and, if necessary, have been processed according to 36CFR800.13(b)(3).

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